



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,458	09/08/2003	Rakesh Agrawal	ARC920030066US1	9801

67232 7590 07/26/2007
CANTOR COLBURN, LLP - IBM ARC DIVISION
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

RAYYAN, SUSAN F

ART UNIT	PAPER NUMBER
----------	--------------

2167

MAIL DATE	DELIVERY MODE
-----------	---------------

07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/657,458	Applicant(s) AGRAWAL ET AL.	
	Examiner Susan F. Rayyan	Art Unit 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 10-27 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 10-27, 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed May 17, 2007 have been fully considered but they are not persuasive.

Applicant argues prior art of record does not teach "a plurality of content providers cooperating to create a privacy-preserving index structure". In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., passing a content vector from a provider to provider within a provider group, each provider group operating on the content vector with a randomized algorithm, each provider group sending respective content vector to a designated host, and aggregating the content vectors of the provider groups into a materialized index which is a privacy-preserving index) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Kirsch teaches a plurality of content providers cooperating to create a privacy-preserving index structure (column7, lines 55-57, as collection meta index).

Applicant argues prior art of record does not teach "a grouping the content providers into a plurality of privacy groups". Juels does teach this limitation (at paragraph 46, as group privacy).

Applicant argues prior art of record does not teach ""maps queries to lists of matching providers. The claim language " mapping a plurality of keywords representing content to be shared to the plurality of content providers" is taught by Kirsch at column 5, lines 33-45. The meta-data index is created from information gleaned from proprietary database indexes for the collections that may be searched. A list of the most relevant collections (content provider) is identified and presented to the user before being submitted with the initial or subsequent queries (column 10, lines 5-35).

DETAILED ACTION

2. Claims 1-3,5-8,10-27, 30-34 are pending.
- 3.

Claim Objections

4. Claims 5-6,30 are objected to because of the following informalities: Claims depend from canceled claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,10-12, 19, 21-22, 30 25,31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,845,278 issued to Steven T. Kirsh et al ("Kirsh") in view of in view of US 2002/0026345 issued to Ari Juels ("Juels").

As per claim 1 Kirsch teaches:

a plurality of content providers cooperating to create a privacy-preserving index structure (column7, lines 55-57,as collection meta index); and
the privacy-preserving index structure mapping a plurality of keywords representing a content to be shared to the plurality of content providers (column 5, lines 33-45);
returning a list of the content providers having a subset of the content to be shared of the access-controlled documents that comprise a set of the keywords that satisfy a query (column 10, lines 25-30, as the list of selected collections are presented to the user).

Kirsch does not explicitly teach grouping into a plurality of privacy groups. Juels does teach this limitation (at paragraph 46, as group privacy) to target information delivery. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kirsch with grouping the plurality of content providers into a plurality of privacy groups) to target information delivery as described by Juels (abstract).

Art Unit: 2167

As per claim 10 same as claim arguments above and Juels teaches

wherein the at least one privacy group comprises at least three contents (at paragraph 46, as group privacy) to target information delivery.

As per claim 11 same as claim arguments above and Juels teaches:

wherein each of the content providers is grouped into one privacy group. Juels does teach this limitation (at paragraph 46, as group privacy) to target information delivery.

As per claim 12 same as claim arguments above and Kirsch teaches:

further comprising performing a randomized index construction algorithm to create the bit vectors for the content providers ... (column 7, line 65 to column 8, line 5,, indexing algorithm).

As per claim 19 same as claim arguments above and Kirsch teaches:

wherein a content provider performs the randomized index construction algorithm to create a provider keyword bit vector... (column 7, line 65 to column 8, line 5,, indexing algorithm).

As per claim 21 same as claim arguments above and Kirsch teaches:

wherein content providers in the ring formation sequentially perform the randomized index construction algorithm on the provider keyword bit vector. ... (column 7, line 65 to column 8, line 5,, indexing algorithm).

As per claim 22 same as claim arguments above and Kirsch teaches:

further comprising the content providers in the ring formation passing provider keyword bit vectors and performing the randomized construction algorithm on the keyword bit

vector until the provider keyword bit vector has completed r rounds around the ring formation... (column 7, line 65 to column 8, line 5,, indexing algorithm).

Claims 30 are rejected based on the same rationale as claim 12 above.

Claims 25, 32 are rejected based on the same rationale as claim 1.

Claims 2-3, 5-8, 26-27, 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch in view of in view of US 2002/0026345 issued to Ari Juels ("Juels") as applied to claim 1 above, and further in view of US 2004/0260680 issued to Steven Francis Best et al ("Best").

As per claim 2 same as claim arguments above and Kirsh teaches wherein the content providers comprise a provider specific search interface for receiving the query (column 5, lines 34-47, as search interface). Kirsh in view of Juels do not explicitly teach "for authenticating a searcher ". Best does teach this limitation (paragraph 115, as checking user id from the search query) to for personalized searching in a distributed data processing system. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kirsh in view of Juels with authenticating a searcher to for personalized searching in a distributed data processing system as described by Best (paragraph 8, lines 1-3).

As per claim 3 same as claim arguments above and Kirsch teaches:

further comprising the searcher submitting the query containing at least one of keywords to a privacy-preserving index system (column 6, lines 35-62 as submitting query).

As per claim 5 same as claim arguments above and Kirsch teaches:

wherein the list of content providers comprises at least 50% false positive content providers(column 10, lines 25-30, as the list of selected collections are presented to the user).

As per claim 6 same as claim arguments above and Best teaches:

further comprising the searcher submitting the query annotated with an identity for the searcher to a specified content provider on the list of content providers (paragraph 115, as checking userid from search query).

As per claim 7 same as claim arguments above and Best teaches:

further comprising the specified content provider authenticating the identity of the searcher for allowing access to the content to be shared(paragraph 115, as checking userid from search query).

Art Unit: 2167

As per claim 8 same as claim arguments above and Best teaches:

further comprising the specified content provider returning to the searcher one or a plurality of documents that match the one or more keywords (Figure 13, search result list).

Claims 26-27, 32-34 are rejected based on the same rationale as claims 2-3 above.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch in view of in view of US 2002/0026345 issued to Ari Juels ("Juels") as applied to claim 1, 10, 12 above, and further in view of US 2005/0076104 issued to Barbara Liskov et al ("Liskov").

As per claim 13 same as claim arguments above and Kirsh in view of Juels do not explicitly teach arranging the content providers in the privacy group in a ring formation. Liskov does teach this limitation (at paragraph 10, as content providers in star topology) formation to accelerate access to the content on behalf of the user. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Kirsh in view of Juels with arranging the content providers in the privacy group in a ring formation to accelerate access to the content on behalf of the user as described by Liskov (paragraph 4, lines 1-4).

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch in view of in view of US 2002/0026345 issued to Ari Juels ("Juels") as applied to claims 1,10,12,19-22 above, and further in view of US 6,879,976 issued to David E. Brookler et al ("Brookler").

As per claims 23 –24 same as claim arguments above and Kirsch in view of Juels do not explicitly teach bit vectors . Brookler does teach this limitation (column 2, lines 50-55,as bit vectors). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Kirsh and Juels with bit vectors to efficiently index data as described by Brookler (column 2, lines 48-50).

Claims 14-18,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch in view of US 2002/0026345 issued to Ari Juels ("Juels") as applied to claim1 ,10,12-13 above, and further in view of US 2005/0076104 issued to Barbara Liskov et al ("Liskov") and further in view of US 6,879,976 issued to David E. Brookler et al ("Brookler").


As per claims 14-18,20 same as claim arguments above and Kirsch in view of Juels further in view of Liskov do not explicitly teach bit vectors . Brookler does teach this limitation (column 2, lines 50-55,as bit vectors). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Kirsh and Juels with bit vectors to efficiently index data as described by Brookler (column 2, lines 48-50).

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan F. Rayyan whose telephone number is 571-272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



SR
7/23/2007


JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100